

What is claimed is:

1. A motion-preserving implant device comprising:
a first plate for engaging with a first bone a second plate for engaging with a second bone an articulation member positioned between the two plates; and
a motion-controlling member attached to one or both of the plates.
2. The device of claim 1 wherein the motion-controlling member is configured to constrain the relative motion between the two plates.
3. The device of claim 1 wherein the motion-controlling member is configured to provide a bumper between the two plates when a motion of the two plates meets a predetermined threshold.
4. The device of claim 1 wherein the motion-controlling member includes a plurality of elastic members.
5. A spinal implant for insertion between two vertebral bodies, comprising:
a first plate for engaging with the first vertebral body a second plate for engaging with the second vertebral body an articulation member positioned between the two plates; and
an elastic motion-controlling member attached to one or both of the plates.
6. The spinal implant of claim 5 wherein the articulation member and the motion-controlling member are configured to provide pivotal and rotational movement between the two vertebral bodies.

7. The spinal implant of claim 5 wherein the articulation member is configured to provide rotational and translational movement between the two vertebral bodies.

8. The spinal implant of claim 5 wherein the articulation member is a non-elastic ball and socket.

9. The spinal implant of claim 5 wherein the plates are coated with an amorphous oxide coating.

10. The spinal implant of claim 5 wherein the articulation member includes a projection having a convex shape.

11. The spinal implant of claim 5 wherein motion-controlling member includes a coating of an ultra-high molecular weight polyethylene (UHMWP).

12. The spinal implant of claim 5 wherein the motion-controlling member includes a plurality of elastic components.

13. The spinal implant of claim 12 wherein the motion-controlling member includes a cord connected between the plurality of elastic components.

14. The spinal implant of claim 12 wherein at least one of the elastic members is constructed of a bio-resorbable material.

15. The spinal implant of claim 12 wherein at least one of the elastic members is constructed of a material that changes properties in response to its environment.

16. The spinal implant of claim 12 wherein at least one of the elastic members is constructed of a material that changes properties in response to an external stimulus.

17. The spinal implant of claim 12 wherein at least one of the elastic members includes a hollow portion.

18. The spinal implant of claim 12 wherein at least one of the elastic members is filled with a gel.

19. The spinal implant of claim 12 wherein at least one of the elastic members is shaped as a wheel.

20. The spinal implant of claim 12 wherein at least one of the elastic members is shaped as a sphere.

21. The spinal implant of claim 12 wherein the plates are unrestrained in a first position and are at least partially restrained in a second position by the motion-controlling member.

22. The spinal implant of claim 12 wherein at least one plate includes a plurality of recesses in which one or more of the plurality of elastic members can be inserted.

23. The spinal implant of claim 22 wherein the plurality of recesses are shaped in a circular dove-tail arrangement.

24. The spinal implant of claim 12 wherein each plate includes at least one recess in which at least one of the plurality of elastic members can be attached and wherein a first of the elastic members can be attached to one of the plates, and a second of the elastic members can be attached to the other of the plates.

25. The spinal implant of claim 12 wherein at least one of the elastic members is attached to a plates via an attachment mechanism.

26. The spinal implant of claim 5 wherein at least one of the plates includes a recess for receiving the motion-controlling member.